

A PRELIMINARY CHECKLIST OF THE FERNS AND FERN ALLIES
OF THE HURON MOUNTAIN REGION

Compiled by
Dale J. Hagenah

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Compiled by Dale J. Hagenah on the basis of collections made in 1957, collections in the herbarium of the Huron Mountain Club, other herbarium specimens seen, and literature records.

The most extensive lists of the flora of the area are that of C. K. Dodge, published by the University of Michigan in 1918, and that by Mrs. Wallace Radcliffe, published in The Book of Huron Mountain.

The botanical names are those used in "Ferns of Michigan" by Billington. The user of this list is referred to that publication or other botanical manuals for descriptions of the individual species.

Species Collected in 1957.

A. Fern Family (Polypodiaceae)

1. Adiantum pedatum. Maidenhair Fern.

A very beautiful woodland species. Seen at only two localities: floor of valley along road to Mountain Lake near trail to lower Mountain Stream, and along the base of a high bank along Salmon Trout River below Spring Creek.

2. Asplenium trichomanes. Maidenhair Spleenwort.

A delicate rock fern commonly forming rosettes on the rocks. Seen only on the granites and, while most luxuriant in shaded spots, was occasionally found in full sun. Seen along Mountain Stream, along Salmon Trout River, on the sides of Huron Mountain and Mummy Mountain. Probably occasional throughout on the granite rocks.

3. Athyrium Filix-femina var. Michauxii. Lady Fern.

An extremely variable fern found in a great variety of habitats throughout the area. When growing in full sun it tends to stand stiffly erect and have somewhat contracted fronds while in moist shady habitats it grows to large size and has rather lax and thin-textured fronds. It is an aggressive pioneer as shown by young plants growing in precarious positions on rocky shores, as at Flat Rock. Common along streams and swamp margins.

4. Athyrium thelypteroides. Silver Spleenwort.

A fairly large grayish-green fern which takes its common name from the silvery appearance of the underside of the fertile fronds early in the season. Seen only along Salmon Trout River where it was quite abundant in flood plains both above and below the highway bridge. Also represented in the herbarium by a collection from swamp near mouth of Cedar Creek.

5. Cystopteris fragilis. Fragile Fern.

A very delicate, thin-textured fern. Abundant along the sandstone gorge of Mountain Stream but otherwise not common, although seen on moist rocks in a number of localities. It was found on soil in the valley along road to Mountain Stream and on a bank along Salmon Trout River below Spring Creek. More than one variety may be represented. Although called Fragile Fern it can withstand severe conditions as shown by its growth in crevices at waterfalls where it is undoubtedly flooded during high water.

6. Dryopteris cristata. Crested Shield Fern.

Normally a fern of swamps but occasional plants are found in upland habitats. Found along edges of the Cranberry Marsh but one plant was growing in a decaying log in an opening near Mountain Lake boathouse trail.

7. Dryopteris disjuncta. Oak Fern.

Forms dense colonies in many places, usually in shady woods. Observed throughout but was especially robust and abundant in colonies along the road to Mountain Lake, at foot of steep bluff where trail to Pine River Point climbs to top of the bluff, along Salmon Trout River, and along the trail to the Rush Lake spring.

8. Dryopteris fragrans var. remotiuscula. Fragrant Cliff-fern.

A wide-ranging fern of far northern distribution, reaching the United States in only a few places, of which northern Michigan is one. Usually grows on nearly sheer cliff faces or the talus beneath them. Listed by C. K. Dodge as having been noted by Mrs. Wallace Radcliffe. Apparently not seen by Dodge himself nor collected by later collectors. Found in 1957 on southwest facing cliff on Mummy Mountain above the Trout Lake trail.

9. Dryopteris marginalis. Marginal Shield Fern.

Common name derived from the location of the sori (fruit dots) on the under side of the fertile fronds being at the margin of the leaflets. A beautiful fern, quite commonly of a distinctive bluish-green color. Very abundant on bluff overlooking Third Pine Lake and on the north side of Huron Mountain near the summit. Most common on rocks but sometimes found along streams, as in the flood plain of the Salmon Trout.

10. Dryopteris phegopteris. Northern Beech Fern.

A long-triangular frond with the two lowest pinnae thrust back like wings. Usually in moist, even swampy, places. Common along the lower channels of Mountain Stream, near mouth of Fisher Creek, along Salmon Trout River and at the west end of Rush Lake.

11. Dryopteris spinulosa. Spinulose Shield Fern.

Present in at least three forms or varieties of which two are sometimes considered distinct species.

(a) D. spinulosa, typical form, having lower pinnae distinctly triangular in shape, is more common in moist places such as some of the low areas around the Cranberry Marsh, the swamp at the mouth of Fisher Creek and along the lower channels of Mountain Stream.

(b) D. intermedia, if treated as a species, having the inner lower leaflet of the bottom pinnae shorter than the one next to it, the whole frond more finely cut, the pinnae tapering to long narrow tips, and with small sticky glands which can be seen with a pocket magnifying glass. The typical plant does not have these glands. Growing in a greater variety of habitats than the typical form and may be seen in all moist woods.

(c) Various robust plants combining various characters of types a and b may be hybrids between them. Very common near bluff along trail to Pine River Point.

(d) Variety americana, a large fern sometimes considered a separate species, has been collected near Negaunee and may occur in the area.

12. Dryopteris thelypteris var. pubescens. Marsh Fern.

As indicated by its common name, this fern grows in marshes and other moist places. Seen along south and west sides of the Cranberry Marsh, on the bog mat islands at the end of Third Pine Lake, in the swamp at the mouth of Fisher Creek and along the Salmon Trout River. Fruiting fronds, which are much stiffer in appearance due to the edges of the leaflets being turned under, are not common except when the plants are in full sun.

13. Onoclea sensibilis. Sensitive Fern.

Very sensitive to frost, hence the common name. A fern of moist places, favoring swamp margins and stream banks. Probably in every swamp and along every stream in the area. The fertile fronds are different from the sterile fronds and are not leafy but consist of beadlike sporecases.

14. Polypodium virginianum. Common Polypody.

Forms large mats on top of rock, especially on large isolated boulders. Very abundant and luxuriant on large boulders along Trout Lake trail where the trail skirts the shoulder of Mummy Mountain.

15. Polystichum Braunii var. Purshii. Braun's Holly Fern.

Probably our most handsome fern. A plant of moist rich woods. Especially large and abundant on and among the boulders in the valley between Rush and Howe Lakes. Also seen along the road to Mountain Lake, along the Trout Lake trail near Mummy Mountain, and in the flood plain along Salmon Trout River above the highway bridge.

16. Pteretis pensylvanica. Ostrich Fern.

Probably the largest fern of the region. Fronds from a colony on a small sand bar in Mountain Stream were nearly six feet in height. May be recognized by the way its leaflets are reduced in size toward the base of the frond and the fact that the spores are borne on separate fronds which are not leafy. Seen along streams and in swamps in numerous places.

17. Pteridium aquilinum var. latiusculum. Bracken or Brake.

A coarse fern most common in poor soils but which will grow in a great variety of places. A common invader of old roadways, clearings, burned areas, cut over lands. Most common in the jack pine area but found throughout the region. Sometimes grows to very large size.

18. Woodsia ilvensis. Rusty Woodsia.

A rock fern found throughout the area on the granite rocks. Will grow in full sun and in dry seasons the fronds curl up and appear almost lifeless until revived by rain. Found on the rocky slopes of Huron Mountain overlooking Mountain Lake and in other places on the granite hills.

B. Flowering Fern Family (Osmundaceae)

1. Osmunda cinnamomea. Cinnamon Fern.

Usually in bogs, swamps and similar moist places. May be distinguished from the next species by the presence of small tufts of wool-like hairs at the base of the leaflets where they join the main stem of the frond. Bears its spores on separate fronds which when ripe have a cinnamon color. Seen in the Cranberry Marsh area, at the mouth of Fisher Creek, in the cedar swamp at the end of Canyon Lake, along the Salmon Trout River near Middle Dam and elsewhere.

2. Osmunda claytoniana. Interrupted Fern.

Sterile fronds similar to those of the preceding species although without the tufts of wool but fertile fronds are unmistakable as the fertile part consists of transformed leaflets in the central portion of the frond. Seen along Cedar Creek, Salmon Trout River and edges of swamps. Will sometimes pioneer in the crevices of moist rocks.

3. Osmunda regalis var. spectabilis. Royal Fern.

Another fern of moist places. Bears its spore cases in panicles on the ends of leafy branches. Robust plants are somewhat bushlike. Grows on the bog mat islands at the end of Third Pine Lake, in the swamp at the mouth of Fisher Creek, at Canyon Lake, and was seen on a rocky shore of Mountain Lake.

C. Adder's-tongue Family (Ophioglossaceae)

Represented in the Huron Mountain region by the genus Botrychium or Grape Ferns. However, the Adder's-tongue Fern, for which the family is named, grows in Michigan and may some day be found in the region. It is rather unfernlike and easily overlooked.

1. Botrychium dissectum. Dissected or Cut-leaved Grape Fern.

Sterile fronds of this species were found along trails near Middle Dam on the Salmon Trout River in 1957. This is believed to be the most northerly locality at which the typically dissected form has been found. The record for Keweenaw County in "Ferns of Michigan" is based on a variety or form which some botanists consider a variety of a different species or even a distinct species.

2. Botrychium lanceolatum var. angustisegmentum. Lance-leaved Grape Fern.

This small species was found at only one place, a low area which may have standing water part of the year, along the trail from Rush and Howe Lakes to Ann Lake. So small that it may have been overlooked elsewhere.

3. Botrychium matricariaefolium. Daisy-leaved Grape Fern.

A small inconspicuous species which prefers old roadways, low places in which water stands part of the year, and similar areas of partial disturbance. Seen at several localities, quite abundant in some, such as low ground along the trail to the Norways at Mountain Lake, and an old roadway through second-growth aspen not far from the Club Gate.

4. Botrychium multifidum. Leathery Grape Fern.

Has a broadly triangular frond with a fleshy texture. Likes old roadways and trails and grassy clearings. Sometimes found under bracken in old clearings. In 1957 two extensive colonies were found in old roadways near the Cranberry Marsh. These colonies had plants in all stages of development from very tiny plants with their first leaves to mature fruiting specimens. Occasional plants were seen at a number of places.

5. Botrychium simplex. Little Grape Fern.

A very tiny plant which sometimes is so small that it matures under old leaves. One small colony was found in sandy soil near the shore of Howe Lake in 1957.

6. Botrychium virginianum. Virginia Grape Fern.

The most common of the grape ferns, this species appears early and by mid-summer has shed its spores and may even have started to wither. Very variable in size and cutting of the frond. Prefers moist places and is found throughout the area in swamps, flood plains and moist woods.

D. Quillwort Family (Isoetaceae)

Two species of quillwort are known from the region and are most readily distinguished by the sculpturing of their spores, which are borne in the bases of the leaves. Both species normally grow under water but in dry seasons may sometimes be found out of water along the shores of small ponds in which there has been a drastic change in water level. The quillworts are most easily found by looking down from a boat or by wading along sandy shores. One or the other or both species probably occur in all the lakes in the region.

1. Isoetes macrospora.

The spores of this species have a reticulate pattern of ridges when viewed through a strong magnifying glass. Pine Lake and Rush Lake.

2. Isoetes muricata.

The spores of this species are smaller than those of the preceding species and are covered with small spinelike projections. Mountain Lake, Ann Lake and Pine River. Apparently more common than the preceding species.

E. Spikemoss Family (Selaginellaceae)

1. Selaginella rupestris. Rock Selaginella.

An inconspicuous little plant which grows on exposed rocks and in hot, dry weather appears dead only to revive when rains come. Found in a number of places on the rocky hills, especially on the south side of Huron Mountain.

F. Clubmoss Family (Lycopodinaceae)

1. Lycopodium annotinum. Bristly Clubmoss.

A creeping plant sometimes forming large colonies. Most easily distinguished by its little cones which are borne singly at the top of leafy upright stems. Found throughout the region and is one of the first plants to establish itself in openings in the hemlock forest. Very common along the trail to Pine River Point. The typical species has leaves which are distinctly toothed along their margins while the variety acrifolium has narrower leaves which are more rigid and have few or no teeth. Both varieties occur in the area as do intermediates between them.

2. Lycopodium clavatum. Running Clubmoss.

Another creeping plant forming large mats. Distinguished by the long hair-like tips of the leaves. The cones are borne on erect stems which bear only very small leaves, the stem appearing leafless until examined closely. Cones usually more than one on each erect stem. Very abundant in places, especially along the trail to Pine River Point.

3. Lycopodium complanatum. Trailing Clubmoss.

A somewhat sprawling plant, sometimes forming large colonies. The branches are rather flat with small, short teeth on the under surface. Distinguished from forms of #6 by the leaves of the under surface and the fact that the creeping stem is on or just below the surface while that of #6 is deep in the ground. Apparently not common in the region. Collected near Lower Falls of the Salmon Trout River and along road near Mountain Lake. These collections are the variety flabelliforme. The typical species probably occurs also.

4. Lycopodium lucidulum. Shining Clubmoss.

Distinguished from the other clubmosses by its lack of cones, the spores being borne among the upper leaves; by bearing small greenish buds among the upper leaves, these buds being capable of forming new plants; and by the fact that individual plants are never long and trailing, each plant branching only a few times. Prefers moist woods. Occurs throughout the region but was especially noted on the trail to Pine River Point.

5. Lycopodium obscurum var. dendroideum. Ground Pine.

Looks like miniature evergreen trees but with large spike-like cones standing erect. The plant of the Huron Mountains is the so-called Round-branched Ground Pine, with individual branches feeling round to the touch and the leaves about

the same length all around the branch. The typical species has the branches flattened due to the lower row of leaves being reduced in size and not projecting. Intermediate forms occur. Like the other clubmosses, common along the trail to Pine River Point.

6. Lycopodium tristachyum. Ground Cedar.

Somewhat like #3 in habit but the stems are normally deep in the ground while the leaves of the branches are about the same size on all sides of the branches, giving it a square rather than a flat appearance. Grows in very poor soil and is quite abundant in parts of the jack pine area, especially along the road to Conway Lake. Also abundant in aspen-birch second growth between the road and Second Pine Lake.

G. Horsetail Family (Equisetaceae)

1. Equisetum arvense. Common Horsetail.

A weedy plant found throughout the region, in woods, swamps, beaches, and clearings. Has many forms depending upon the habitat.

2. Equisetum fluviatile. Water Horsetail.

Grows in swamps or in shallow water. Distinguished by soft texture and the very large hollow center of the stems. When growing in water may have no branches at all while other plants, especially those of swamps, have numerous whorls of branches. In Mountain Lake at the Norways and at the Cranberry Marsh, and many other places.

3. Equisetum hyemale. Scouring Rush.

Two varieties were collected in 1957, variety affine and variety intermedium. The first was growing on a steep bank along the Salmon Trout River while the second occurs along the beach and among the cabins.

4. Equisetum pratense. Meadow Horsetail.

Somewhat like #1 but more delicate and with the sheaths of the branches definitely short triangular instead of long triangular. Found along the banks of the Salmon Trout River below the Lower Falls.

5. Equisetum scirpoides. Sedge Horsetail.

A small tufted plant easily overlooked. Grows along streams on moist banks, even where it is flooded at times. Very abundant at Hogback Falls on the Salmon Trout River, along Fisher Creek, and along Cedar Creek.

6. Equisetum sylvaticum var. multiramum. Wood Horsetail.

A large, somewhat plume-like plant with many whorls of branches. Woods along edge of the Cranberry Marsh and in other swampy areas. Also in the flood plain of the Salmon Trout River.

Species Which Have Been Collected by Other Botanists but Which Were Not Confirmed During the 1957 Season.

1. Dryopteris filix-mas. Male Fern.

Collected on West Huron Island by Mrs. Marjorie T. Bingham in 1942. The specimen is labeled as Aspidium goldianum but is the much more rare Male Fern. Specimens from Cedar Creek labeled as the Male Fern are the sun form of the Lady Fern.

2. Equisetum palustre. Marsh Horsetail.

Collected at Ives Lake by Mrs. Bingham in 1942 and by C. V. Morton in 1949. The Ives Lake area was not botanized during the 1957 survey. Should occur elsewhere.

3. Equisetum variegatum. Variegated Horsetail.

Collected at Ives Lake by R. M. and P. F. Tryon in 1941. The Ives Lake area was not botanized during the 1957 survey. Should occur elsewhere.

Species of Which No Specimens Have Been Seen but Which Were Attributed to The Huron Mountains in the Dodge or Radcliffe Lists.

1. Asplenium platyneuron. Ebony Spleenwort.

The discovery of this fern in the Huron Mountains would be a remarkable extension of range as it is normally a southern species. It has been found once in the Upper Peninsula, two plants being found in a limestone area in eastern Chippewa County in 1952. Reported by Mrs. Radcliffe as Asplenium ebeneum.

2. Cystopteris bulbifera. Bulblet Fern.

Listed by Dodge as occurring in shaded rocky ravines. This species is readily distinguished by long tapering fronds bearing small greenish bulblets on the underside of the frond near the tip. It is normally a plant of limestone areas but is sometimes found along streams in marly cedar swamps. Has been collected near Marquette.

3. Polystichum acrostichoides. Christmas Fern.

Another more southern species listed by Mrs. Radcliffe. Although a specimen from Keweenaw County is in existence it may have come from a cultivated plant.

4. Woodsia obtusa. Blunt-lobed Woodsia.

A very rare fern in Michigan. The only recent collections from the Upper Peninsula are from limestone areas. However, it is not confined to limestone elsewhere. The Dodge specimen from near Marquette proved to be the Rusty Woodsia.

5. Lycopodium inundatum. Bog Clubmoss.

Dodge states, "Damp sandy open or partially shaded ground near Huron Mountain Club. Frequent throughout." A small species not likely to be confused with any other. No sign of it was seen but it should occur here.

6. Selaginella apus. Meadow Spikemoss

Dodge says, "Damp, mostly shaded ground near Huron Mountain Club. Plentiful throughout." A very small species which might be confused with some mosses. Dodge's reference to "shaded ground" casts some doubt as it is a plant of open marshes, swamp margins and other open places.

Additional Species Which Have Been Collected Elsewhere in Marquette County.

1. Cystopteris Dickieana.

Similar to the Fragile Fern but having a distinctive type of spore. Has been collected on Partridge Island near Marquette.

2. Dryopteris Boottii. Boott's Wood-Fern.

A hybrid of Dryopteris intermedia and D. cristata. Has been collected near Negaunee and should be sought in the Huron Mountain region.

3. Dryopteris Goldiana. Goldie's Wood-Fern.

Has been collected near Dukes, southeast of Marquette. A large species of moist woods. Frequently grows with the Silver Spleenwort and should be looked for wherever that species is found. (See Dryopteris filix-mas, page 8.)

4. Dryopteris Robertiana. Limestone Oak-Fern.

Found at Presque Isle Park, Marquette.

5. Woodsia alpina. Alpine Woodsia.

Found near Ishpeming in 1957, previously known in Michigan only from Keweenaw County.

6. Woodsia Cathcartiana. Cathcart's Woodsia.

Found at Presque Isle Park, Marquette, and near Ishpeming.

7. Lycopodium sabinaefolium.

Collected at Shot Point, east of Marquette, more than 80 years ago.